Water-Data Report 2008

12510500 YAKIMA RIVER AT KIONA, WA

Yakima Basin
Lower Yakima Subbasin

LOCATION.--Lat 46°15′13″, long 119°28′37″ referenced to North American Datum of 1927, in SE ¼ NE ¼ sec.19, T.9 N., R.27 E., Benton County, WA, Hydrologic Unit 17030003, on left bank just upstream from abandoned highway bridge pier at Kiona, 0.1 mi upstream from highway bridge, 3.6 mi downstream from Corral Canyon Creek, 5.0 mi downstream from intake of Kiona Canal, and at mile 29.9.

DRAINAGE AREA.--5,615 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August to December 1895 (gage heights only, fragmentary), August 1896 to March 1915, February 1933 to current year. Monthly discharge only 1887 to 1933, published in WSP 1316 and are available at the Pasco, Washington, field office.

REVISED RECORDS.--WSP 214: 1905. WSP 1122: 1934(M). WSP 1216: 1949-50. WSP 1286: 1907(M), 1909, 1936. WSP 1933: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 454.41 ft above NGVD of 1929. Prior to Mar. 31, 1915, nonrecording gages at approximately same site and datum. Feb. 6, 1933, to July 26, 1934, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversion upstream from station for irrigation of about 424,000 acres. Flow affected by diversions and by Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes. The Kiona Canal bypasses station with a mean flow of approximately 23 ft³/s for irrigation of about 1,100 acres downstream from station. Diversion by the Kennewick Canal, which bypasses station, began in August 1956, and diverts about 96,000 acre-ft per year. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--75 years (water years 1934-2008), 3,484 ft³/s, 2,524,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 67,000 ft³/s, Dec. 23, 1933, gage height, 21.57 ft, from high-water marks; minimum discharge observed, 105 ft³/s, Sept. 11, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,600 ft³/s, May 20, gage height, 11.42 ft; minimum discharge, 715 ft³/s, Aug. 7.

12510500 YAKIMA RIVER AT KIONA, WA—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2,140	2,230	1,940	2,270	2,430	3,610	2,050	2,850	6,240	4,800	890	1,500
2	2,470	2,200	1,920	2,200	2,380	3,980	2,120	2,350	5,660	5,100	876	1,560
3	2,460	2,130	1,940	2,200	2,410	4,140	2,120	2,090	5,220	4,720	874	1,540
4	2,160	2,080	3,180	2,250	2,340	4,000	2,120	2,120	4,970	4,080	970	1,440
5	2,220	2,070	7,000	2,280	2,300	3,860	2,470	2,330	4,880	3,740	956	1,260
6	2,030	2,050	7,190	2,290	2,260	3,720	2,500	2,830	4,460	3,470	832	1,260
7	1,820	2,020	5,920	2,290	2,290	3,610	2,270	4,010	4,140	2,710	731	1,360
8	1,670	2,000	4,980	2,250	2,280	3,530	2,180	5,110	3,720	2,030	789	1,480
9	1,550	1,940	4,360	2,250	2,330	3,470	2,040	5,290	3,430	1,540	942	1,480
10	1,400	1,920	3,880	2,240	2,410	3,480	1,980	4,840	3,010	1,100	1,120	1,440
11	1,470	1,900	3,580	2,230	2,680	3,600	2,140	4,350	2,910	926	1,240	1,320
12	1,480	1,910	3,260	2,240	3,120	3,780	2,290	4,260	2,840	933	1,220	1,280
13	1,680	1,910	3,070	2,310	3,400	4,040	2,450	4,230	2,910	986	1,140	1,320
14	1,730	1,920	2,970	2,350	3,420	4,160	3,050	3,930	2,400	1,030	891	1,500
15	2,230	2,010	2,870	2,340	3,240	4,140	3,900	3,920	2,300	1,060	830	1,720
16	2,480	1,920	2,770	2,360	3,060	4,010	3,940	5,480	2,500	1,050	947	1,700
17	2,560	1,820	2,700	2,280	2,980	3,850	3,350	7,640	2,570	928	1,080	1,620
18	2,290	2,150	2,650	2,180	3,030	3,460	2,800	9,770	2,330	793	1,240	1,590
19	2,080	2,580	2,580	2,250	2,960	3,270	2,480	12,400	2,180	791	1,370	1,590
20	2,180	2,660	2,650	2,280	2,890	3,410	2,360	14,300	2,050	839	1,520	1,580
21	2,530	2,490	2,780	e2,300	2,870	3,250	2,270	13,900	1,920	885	1,730	1,760
22	2,800	2,360	2,660	e2,120	2,880	3,030	2,180	11,900	2,210	857	1,830	1,990
23	2,690	2,210	2,560	e1,950	2,910	2,830	2,230	9,380	2,820	804	1,830	2,150
24	2,590	2,080	2,520	e1,900	2,930	2,800	2,380	7,780	2,760	825	1,780	2,120
25	2,640	2,050	2,590	e1,950	2,950	2,740	2,210	7,150	2,530	972	1,750	2,060
26	2,540	2,020	2,550	e2,000	3,000	2,610	1,920	7,070	2,300	915	1,770	2,000
27	2,450	1,990	2,450	e2,100	3,050	2,440	1,890	7,620	2,420	893	1,890	2,000
28	2,370	1,950	2,390	e2,200	3,140	2,340	1,960	8,080	2,490	898	1,860	2,070
29	2,320	1,990	2,360	2,310	3,290	2,250	2,360	8,000	2,900	912	1,760	2,100
30	2,280	1,990	2,360	2,360	---	2,270	2,740	7,430	4,030	869	1,700	2,020
31	2,230	---	2,290	2,380	---	2,190	---	6,960	---	846	1,550	---
Total	67,540	62,550	98,920	68,910	81,230	103,870	72,750	199,370	97,100	52,302	39,908	49,810
Mean	2,179	2,085	3,191	2,223	2,801	3,351	2,425	6,431	3,237	1,687	1,287	1,660
Max	2,800	2,660	7,190	2,380	3,420	4,160	3,940	14,300	6,240	5,100	1,890	2,150
Min	1,400	1,820	1,920	1,900	2,260	2,190	1,890	2,090	1,920	791	731	1,260
Ac-ft	134,000	124,100	196,200	136,700	161,100	206,000	144,300	395,500	192,600	103,700	79,160	98,800

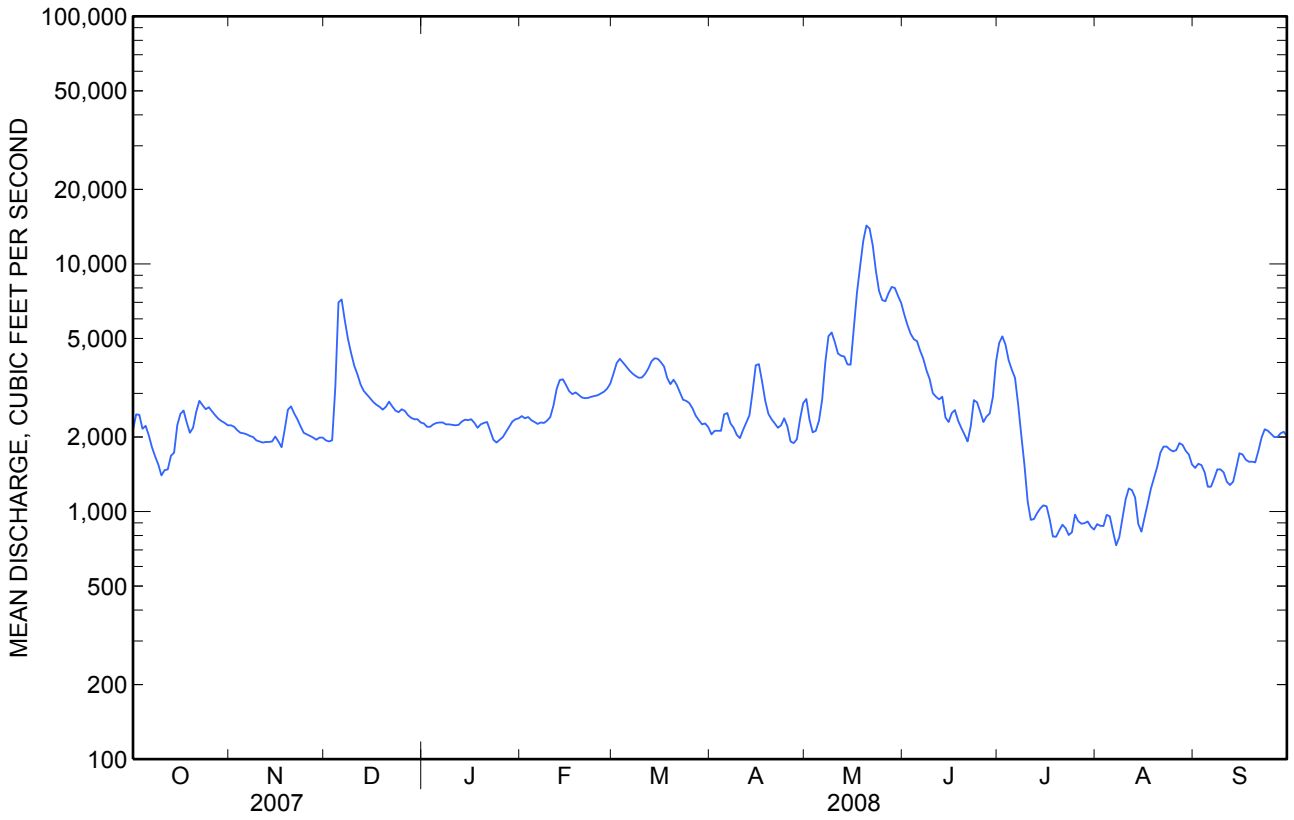
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,238	2,855	3,907	3,957	4,476	4,635	4,633	5,206	4,719	1,888	1,566	1,816
Max	4,252	6,293	17,330	14,100	17,570	16,750	13,190	13,930	16,470	5,398	2,333	2,549
(WY)	(1950)	(1960)	(1934)	(1934)	(1996)	(1972)	(1956)	(1997)	(1948)	(1954)	(1976)	(1978)
Min	1,021	1,462	1,546	1,335	1,163	486	493	902	869	598	751	784
(WY)	(1980)	(1988)	(1936)	(1937)	(1977)	(1977)	(1977)	(1977)	(1994)	(1994)	(1979)	(1979)

12510500 YAKIMA RIVER AT KIONA, WA—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1934 - 2008	
Annual total	1,333,622		994,260			
Annual mean	3,654		2,717		3,484	
Highest annual mean					7,055	1956
Lowest annual mean					1,293	1977
Highest daily mean	16,600	Mar 15	14,300	May 20	59,400	Dec 24, 1933
Lowest daily mean	781	Jul 13	731	Aug 7	225	Apr 4, 1977
Annual seven-day minimum	854	Jul 7	828	Jul 18	263	Apr 19, 1977
Annual runoff (ac-ft)	2,645,000		1,972,000		2,524,000	
10 percent exceeds	7,010		4,180		7,070	
50 percent exceeds	2,660		2,290		2,400	
90 percent exceeds	1,130		1,130		1,340	



12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953-94, 1999 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1952 to September 1969 (composite samples), October 1969 to September 1977, July 1999 to June 2000, February 2001 to September 2008 (discontinued).
pH: April 2004 to September 2008 (discontinued).
WATER TEMPERATURE: December 1952 to September 1980, March 1981 to February 1982, July 1999 to June 2000, Oct. 2000 to September 2008 (discontinued).
DISSOLVED OXYGEN: April 2004 to September 2008 (discontinued).
SUSPENDED SEDIMENT: June 1977 to October 1980.
TURBIDITY: April 2004 to September 2007.
CHLOROPHYLL: April 2004 to September 2005.

INSTRUMENTATION.--Water-quality monitor since July 1999. Electronic data logger, with 15-minute logging interval. Bureau of Reclamation satellite telemeter at station. Any use of trade, product, or firm names in this publication is for descriptive purposes only and does not imply endorsement by the U.S. Government.

REMARKS.--
SPECIFIC CONDUCTANCE: records are good.
pH: records are good.
WATER TEMPERATURE: records are good.
DISSOLVED OXYGEN: Records are good, except for August 11 to 15, which are fair.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum observed, 675 microsiemens, Dec. 3, 1970; minimum recorded, 82 microsiemens, June 17, 2002.
pH: Maximum recorded, 10.3 units, June 28, 2006; minimum recorded, 7.5 units, July 6, 2004, July 21, 2004, Aug. 9, 2004, Jan. 20-22, 2005, Jan. 24, 2005, Nov. 8, 2006, and Nov. 9, 2006.
WATER TEMPERATURE: Maximum, 30.8 °C, July 20, 2001; minimum, 0.0°C on several days during winter months most years.
DISSOLVED OXYGEN: Maximum recorded, 18.2 mg/L, June 25, 2007; minimum recorded, 2.4 mg/L, July 6, 2004.
TURBIDITY: Maximum recorded, 420 FNU, Apr. 22, and Apr. 24, 2004, but may have been greater during periods of missing record; minimum recorded, 0.0 on Oct. 7-14, Nov. 13, 2005 (minimum reported as <1 previously).
SUSPENDED SEDIMENT: Maximum daily mean, 1,750 mg/L Dec. 4, 1977; minimum daily mean, 1 mg/L Dec. 11, 14, 1978.
SEDIMENT DISCHARGE: Maximum daily, 110,000 tons; minimum daily 6.2 tons Dec. 14, 1978.
CHLOROPHYLL: Maximum recorded, 28 units, Jan.20, 2005; minimum recorded, <0.1 units, June 26, 2004.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded 285 microsiemens on Sept. 14; minimum recorded, 114 microsiemens, July 2.
pH: Maximum recorded 9.3 units on several days in July, Aug. and Sept.; minimum recorded 7.6 units on July 3 and July 9-10, but may have been lower during period of missing record.
WATER TEMPERATURE: Maximum recorded, 27.4°C on Aug. 16, but may have been higher during period of missing record; minimum recorded 14.7°C, Sept. 24.
DISSOLVED OXYGEN: Maximum recorded, 15.4 mg/L, July 19; minimum recorded, 5.4 mg/L, Aug. 16-18.

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 1 of 9
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, ft3/s (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt infl pt titr., field, mg/L (00453)	Carbonate, wat flt infl pt titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)
Oct													
24...	1200	2,620	750	10.6	100	7.9	253	--	12.0	93.0	113	.0	6.59
Nov													
20...	1200	2,680	761	12.5	103	7.8	225	6.7	7.1	91.5	112	.0	6.73
Dec													
12...	1110	3,280	760	15.2	111	7.7	192	1.0	2.4	76.3	93.1	.0	5.46
Jan													
15...	1050	2,340	763	14.4	107	7.6	226	4.4	3.2	92.0	112	.0	7.33
Feb													
20...	1040	2,910	752	13.8	110	7.8	215	--	5.2	85.4	104	.0	7.86
Mar													
17...	1150	3,830	753	12.2	104	7.6	178	14.9	8.0	69.2	84.4	.0	6.04
Apr													
16...	1120	4,000	757	12.2	110	7.6	145	9.9	10.4	56.1	68.4	.0	4.24
May													
06...	1120	2,720	747	10.8	113	7.8	206	24.3	16.5	82.4	100	.0	5.42
19...	1040	12,300	746	9.4	95	7.4	102	27.9	15.2	38.9	47.5	.0	1.99
Jun													
02...	1130	5,680	748	9.4	96	7.6	129	17.6	15.4	47.0	57.3	.0	2.77
16...	1200	2,480	747	12.5	141	8.4	182	31.4	20.3	75.3	89.0	1.3	4.39
Jul													
07...	1200	2,670	754	9.3	105	7.8	141	23.2	20.9	54.1	65.9	.0	3.32
17...	1150	941	753	11.3	137	8.2	233	26.8	24.6	87.9	107	.0	5.79
Aug													
05...	1110	983	753	10.4	121	8.2	259	34.5	22.3	98.7	120	.0	6.16
19...	1220	1,360	746	10.2	122	8.0	260	28.8	23.1	101	123	.0	6.05
Sep													
15...	1050	1,690	754	10.4	112	8.0	278	--	18.3	105	128	.0	7.05

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 9
[Remark codes: <, less than; E, estimated.]

Date	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unf by analysis, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L as P (00665)	1-Naphthol, water, fltrd 0.7u GF µg/L (49295)	2,6-Diethylaniline water, fltrd 0.7u GF µg/L (82660)	2Chloro-2',6'-diethyl acetanilide wat flt µg/L (61618)	CIAT, water, fltrd, µg/L (04040)	2-Ethyl-6-methylaniline water, fltrd, µg/L (61620)	3,4-Dichloroaniline water, fltrd, µg/L (61625)
Oct													
24...	13.3	<.020	1.15	.009	1.31	.059	.092	--	--	--	--	--	--
Nov													
20...	12.5	.024	1.10	.012	1.37	.079	.127	<.04	<.006	<.010	E.006	<.010	<.006
Dec													
12...	9.87	E.017	.87	.008	.96	.075	.096	--	--	--	--	--	--
Jan													
15...	12.1	<.020	1.00	.008	1.18	.060	.081	<.04	<.006	<.010	E.008	<.010	<.006
Feb													
20...	10.2	.022	.84	.006	1.11	.074	.107	--	--	--	--	--	--
Mar													
17...	7.25	E.014	.47	.010	.70	.042	.103	<.04	<.006	<.010	E.009	<.010	<.006
Apr													
16...	6.03	E.017	.40	.005	.75	.056	.141	<.04	<.006	<.010	<.014	<.010	<.006
May													
06...	9.74	<.020	.68	.009	1.02	.067	.127	<.04	<.006	<.010	E.011	<.010	<.006
19...	3.64	.055	.28	.007	1.16	.044	.45	<.04	<.006	<.010	E.007	<.010	<.006
Jun													
02...	5.22	E.019	.47	.005	.78	.056	.155	<.04	<.006	<.010	E.007	<.010	<.006
16...	9.36	<.020	.38	.006	.63	.021	.065	<.04	<.006	<.010	E.009	<.010	<.006
Jul													
07...	6.76	E.010	.56	.007	.73	.046	.101	<.04	<.006	<.010	E.009	<.010	<.006
17...	12.6	E.015	.77	.010	1.04	.031	.075	<.04	<.006	<.010	E.009	<.010	<.006
Aug													
05...	14.0	<.020	.96	.010	1.34	.036	.073	<.04	<.006	<.010	E.009	<.010	<.006
19...	13.7	<.020	1.03	.013	1.11	.066	.075	<.04	<.006	<.010	E.008	<.010	<.006
Sep													
15...	17.2	<.020	1.12	.010	1.31	.049	.074	<.04	<.006	<.010	E.011	<.010	<.006

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 9
[Remark codes: <, less than; E, estimated.]

Date	3,5-Dichloroaniline water, fltrd, µg/L (61627)	4-Chloro-2methylphenol, water, fltrd, µg/L (61633)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	alpha-Endosulfan, water, fltrd, µg/L (34362)	alpha-HCH-d6, surrog, Sch2003 wat flt percent recovry (99995)	Atrazine, water, fltrd, µg/L (39632)	Azinphos-methyl oxon, water, fltrd, µg/L (61635)	Azinphos-methyl, water, fltrd 0.7u GF µg/L (82686)	Benfluralin, water, fltrd 0.7u GF µg/L (82673)	Carbaryl, water, fltrd 0.7u GF µg/L (82680)	Carbofuran, water, fltrd 0.7u GF µg/L (82674)	Chlorpyrifos oxon, water, fltrd, µg/L (61636)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov													
20...	<.008	<.005	E.007	<.006	<.006	92.0	.011	<.04	<.120	<.004	E.007	<.020	<.06
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
15...	<.008	<.005	<.006	<.006	<.006	84.7	E.007	<.04	<.120	<.004	<.060	<.020	<.06
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
17...	<.008	<.005	<.006	<.006	<.006	88.5	E.007	<.04	<.120	<.010	<.060	<.020	<.06
Apr													
16...	<.008	<.005	<.006	<.006	<.006	94.8	.008	<.04	<.120	<.010	<.060	<.020	<.06
May													
06...	<.008	<.005	<.006	<.006	<.006	101	.011	<.06	<.120	<.010	E.013	<.020	<.06
19...	<.004	<.005	<.006	<.006	<.006	91.4	.008	<.04	<.120	<.010	E.011	<.020	<.06
Jun													
02...	<.008	<.005	<.006	<.006	<.006	93.6	.008	<.04	<.120	<.010	E.007	<.020	<.06
16...	<.008	<.005	<.006	<.006	<.006	89.0	E.007	<.06	<.120	<.010	E.007	<.020	<.06
Jul													
07...	<.008	<.005	<.006	<.006	<.006	103	E.007	<.04	<.120	<.010	E.008	<.020	<.06
17...	<.008	<.005	<.006	<.006	<.006	98.5	.009	<.04	<.120	<.010	<.060	<.020	<.06
Aug													
05...	<.008	<.005	<.006	<.006	<.006	89.3	.008	<.04	E.028	<.010	<.060	<.020	<.06
19...	<.008	<.005	<.006	<.006	<.006	92.6	.008	<.04	<.120	<.010	E.009	<.020	<.06
Sep													
15...	<.008	<.005	<.006	<.006	<.006	104	.009	<.04	<.120	<.010	E.010	<.020	<.06

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 4 of 9
[Remark codes: <, less than; E, estimated.]

Date	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7u GF µg/L (82687)	cis-Propiconazole, water, fltrd, µg/L (79846)	Cyanazine, water, fltrd, µg/L (04041)	Cyfluthrin, water, fltrd, µg/L (61585)	lambda-Cyhalothrin, water, fltrd, µg/L (61595)	Cypermethrin water, fltrd, µg/L (61586)	DCPA, water, fltrd 0.7u GF µg/L (82682)	Desulfinylfipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Diazinon-d10 surrog, Sch2003 wat flt percent recovry (99994)	Dicrotophos, water, fltrd, µg/L (38454)	Dieldrin, water, fltrd, µg/L (39381)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov													
20...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	112	<.08	<.009
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
15...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	82.1	<.08	<.009
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
17...	.008	<.010	<.006	<.020	<.016	<.004	<.014	E.003	<.012	<.005	119	<.08	<.009
Apr													
16...	.011	<.010	<.006	<.020	<.016	<.004	<.014	E.002	<.012	<.009	120	<.08	<.009
May													
06...	.008	<.010	E.002	<.020	<.016	<.004	<.014	E.004	<.012	<.007	138	<.08	<.009
19...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	E.004	<.012	<.005	123	<.08	<.009
Jun													
02...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	66.7	<.08	<.009
16...	E.006	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	97.0	<.08	<.009
Jul													
07...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	132	<.08	<.009
17...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	112	<.08	<.009
Aug													
05...	<.005	<.010	<.006	<.020	<.016	<.004	<.032	E.003	<.012	<.005	98.0	<.08	<.009
19...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	E.002	<.012	E.004	86.7	<.08	<.009
Sep													
15...	E.006	<.010	<.006	<.020	<.016	<.004	<.014	E.002	<.012	<.005	138	<.08	<.009

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 5 of 9
[Remark codes: <, less than; E, estimated.]

Date	Dimeth-oate, water, fltrd 0.7u GF µg/L (82662)	Disulf-oton sulfone water, fltrd, µg/L (61640)	Disul-foton, water, fltrd 0.7u GF µg/L (82677)	Endo-sulfan sulfate water, fltrd, µg/L (61590)	EPTC, water, fltrd 0.7u GF µg/L (82668)	Ethion monoxon water, fltrd, µg/L (61644)	Ethion, water, fltrd, µg/L (82346)	Etho-prop, water, fltrd 0.7u GF µg/L (82672)	Fenami-phos sulfone water, fltrd, µg/L (61645)	Fenami-phos sulf-oxide, water, fltrd, µg/L (61646)	Fenami-phos, water, fltrd, µg/L (61591)	Desulf-inyl-fipro-nil amide, wat flt µg/L (62169)	Fipro-nil sulfide water, fltrd, µg/L (62167)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov													
20...	<.006	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.04	<.03	<.029	<.013
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
15...	<.006	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.04	<.03	<.029	<.013
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
17...	<.006	<.01	<.04	<.022	<.004	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
Apr													
16...	<.006	<.01	<.04	E.006	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
May													
06...	<.006	<.01	<.04	<.022	.020	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
19...	<.006	<.01	<.04	E.007	<.009	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
Jun													
02...	<.006	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
16...	<.006	<.01	<.04	<.022	.009	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
Jul													
07...	<.006	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
17...	<.006	<.01	<.04	<.022	E.004	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
Aug													
05...	<.007	E.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
19...	<.006	E.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013
Sep													
15...	<.006	.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.20	<.03	<.029	<.013

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 6 of 9
[Remark codes: <, less than; E, estimated.]

Date	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Hexazinone, water, fltrd, µg/L (04025)	Iprodione, water, fltrd, µg/L (61593)	Isofenphos, water, fltrd, µg/L (61594)	Malaoxon, water, fltrd, µg/L (61652)	Malathion, water, fltrd, µg/L (39532)	Metalaxyl, water, fltrd, µg/L (61596)	Methidathion, water, fltrd, µg/L (61598)	Methyl paraoxon, water, fltrd, µg/L (61664)	Methyl parathion, water, fltrd 0.7u GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov													
20...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
15...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
17...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Apr													
16...	<.024	<.020	<.010	.011	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
May													
06...	<.024	<.020	<.010	.011	<.01	<.006	<.020	<.016	<.007	.009	<.01	<.008	<.010
19...	<.024	<.020	<.010	<.008	<.0159	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Jun													
02...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
16...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Jul													
07...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
17...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	E.006
Aug													
05...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	E.007
19...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010
Sep													
15...	<.024	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 7 of 9
[Remark codes: <, less than; E, estimated.]

Date	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7u GF µg/L (82671)	Myclobutanil water, fltrd, µg/L (61599)	Oxyfluorfen, water, fltrd, µg/L (61600)	Pendimethalin, water, fltrd 0.7u GF µg/L (82683)	Phorate oxon, water, fltrd, µg/L (61666)	Phorate water, fltrd 0.7u GF µg/L (82664)	Phosmet oxon, water, fltrd, µg/L (61668)	Phosmet water, fltrd, µg/L (61601)	Prometon, water, fltrd, µg/L (04037)	Prometryn, water, fltrd, µg/L (04036)	Propyzamide, water, fltrd 0.7u GF µg/L (82676)	Propanil, water, fltrd 0.7u GF µg/L (82679)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov													
20...	<.012	<.033	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan													
15...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
17...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
Apr													
16...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
May													
06...	<.012	<.003	<.010	<.006	.018	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
19...	E.008	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
Jun													
02...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
16...	<.012	<.003	<.010	<.006	E.010	<.03	<.040	<.06	<.008	<.01	<.006	<.004	<.006
Jul													
07...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
17...	E.006	<.003	E.007	<.006	<.012	<.03	<.040	<.06	<.008	E.01	<.006	<.004	<.006
Aug													
05...	<.012	<.003	E.006	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
19...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006
Sep													
15...	<.012	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 8 of 9
[Remark codes: <, less than; E, estimated.]

Date	Propargite, water, fltrd 0.7u GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water, fltrd 0.7u GF µg/L (82670)	Tefluthrin, water, fltrd, µg/L (61606)	Terbufos oxon sulfone water, fltrd, µg/L (61674)	Terbufos, water, fltrd 0.7u GF µg/L (82675)	Terbuthylazine, water, fltrd, µg/L (04022)	Thiobencarb water, fltrd 0.7u GF µg/L (82681)	trans-Propiconazole, water, fltrd, µg/L (79847)	Tribuphos, water, fltrd, µg/L (61610)	Trifluralin, water, fltrd 0.7u GF µg/L (82661)	Dichlorvos, water, fltrd, µg/L (38775)	Suspended sediment concentration mg/L (80154)
Oct													
24...	--	--	--	--	--	--	--	--	--	--	--	--	15
Nov													
20...	<.04	.010	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.006	<.01	15
Dec													
12...	--	--	--	--	--	--	--	--	--	--	--	--	12
Jan													
15...	<.04	E.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.006	<.01	5
Feb													
20...	--	--	--	--	--	--	--	--	--	--	--	--	8
Mar													
17...	<.04	<.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.011	<.01	18
Apr													
16...	<.04	.008	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	43
May													
06...	<.04	.012	<.02	<.003	<.04	<.02	<.01	<.010	E.01	<.035	<.009	<.01	22
19...	<.04	E.007	<.02	<.008	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	352
Jun													
02...	<.04	<.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	78
16...	<.04	E.007	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	14
Jul													
07...	<.04	E.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	28
17...	<.04	E.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	7
Aug													
05...	<.04	E.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	6
19...	<.04	E.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	9
Sep													
15...	<.04	E.007	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.009	<.01	4

12510500 YAKIMA RIVER AT KIONA, WA—Continued

WATER-QUALITY DATA WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 9 of 9
[Remark codes:
<, less than;
E, estimated.]

Date	Suspended sediment discharge, tons/d (80155)
Oct	
24...	106
Nov	
20...	109
Dec	
12...	106
Jan	
15...	32
Feb	
20...	63
Mar	
17...	186
Apr	
16...	464
May	
06...	162
19...	11,700
Jun	
02...	1,200
16...	94
Jul	
07...	202
17...	18
Aug	
05...	16
19...	33
Sep	
15...	18

12510500 YAKIMA RIVER AT KIONA, WA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	---	---	---	145	137	140	260	249	255	262	253	258
2	---	---	---	138	114	124	262	248	256	265	255	260
3	---	---	---	119	115	117	260	246	254	266	257	262
4	---	---	---	127	119	123	258	247	253	269	259	265
5	---	---	---	134	127	130	261	247	255	275	262	268
6	---	---	---	141	134	137	265	252	259	280	268	274
7	---	---	---	---	---	---	273	259	266	281	268	275
8	---	---	---	---	---	---	277	261	270	277	264	271
9	---	---	---	206	176	188	279	264	271	275	263	269
10	---	---	---	---	---	---	268	251	260	272	260	267
11	---	---	---	---	---	---	258	243	251	276	266	271
12	---	---	---	---	---	---	249	238	244	279	269	275
13	---	---	---	---	---	---	253	240	246	281	274	278
14	---	---	---	---	---	---	263	247	253	285	274	279
15	---	---	---	---	---	---	270	251	261	279	270	275
16	---	---	---	---	---	---	279	267	272	274	262	268
17	---	---	---	---	---	---	280	269	275	269	261	265
18	---	---	---	240	220	233	275	261	267	272	265	269
19	---	---	---	247	229	241	262	249	256	275	268	272
20	---	---	---	253	238	248	254	243	249	278	275	276
21	---	---	---	253	237	246	247	238	242	279	271	274
22	---	---	---	249	239	244	242	232	237	274	266	270
23	---	---	---	253	240	246	238	231	235	267	257	262
24	---	---	---	250	243	247	239	231	236	257	249	253
25	---	---	---	250	241	246	245	238	242	254	249	252
26	---	---	---	249	238	243	250	242	246	258	252	255
27	---	---	---	242	233	238	254	246	250	261	255	258
28	172	165	169	246	238	241	253	241	247	263	258	260
29	175	170	172	250	239	244	249	241	246	261	252	257
30	170	145	158	255	242	248	252	243	248	257	251	254
31	---	---	---	257	245	252	258	249	254	---	---	---
Month	---	---	---	---	---	---	280	231	253	285	249	266

12510500 YAKIMA RIVER AT KIONA, WA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		October			November			December			January	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
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8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		February			March			April			May	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
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12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
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21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Max	---	---	---	---	---	---	---	---	---	---	---	---
Min	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
		June			July			August			September	
1	---	---	---	7.8	7.7	7.7	9.2	8.1	8.6	9.3	8.2	8.8
2	---	---	---	7.7	7.7	7.7	9.3	8.0	8.7	9.3	8.2	8.8
3	---	---	---	7.8	7.6	7.7	9.3	8.1	8.7	9.3	8.2	8.8
4	---	---	---	7.9	7.8	7.8	9.2	8.1	8.7	9.3	8.2	8.8
5	---	---	---	7.9	7.8	7.9	9.3	8.0	8.7	9.3	8.2	8.8
6	---	---	---	8.0	7.8	7.9	9.2	8.0	8.6	9.3	8.2	8.8
7	---	---	---	---	---	---	9.2	7.9	8.5	9.3	8.2	8.9
8	---	---	---	---	---	---	9.2	7.9	8.4	9.3	8.2	8.8
9	---	---	---	8.6	7.6	8.0	9.2	7.9	8.6	9.3	8.2	8.8
10	---	---	---	---	---	---	9.1	8.0	8.5	9.3	8.2	8.8
11	---	---	---	---	---	---	9.1	7.9	8.5	9.2	8.2	8.7
12	---	---	---	---	---	---	9.1	7.9	8.5	9.2	8.1	8.7
13	---	---	---	---	---	---	9.1	7.9	8.5	9.2	8.1	8.7
14	---	---	---	---	---	---	9.2	7.8	8.5	9.2	8.1	8.6
15	---	---	---	---	---	---	9.2	7.9	8.5	9.2	8.1	8.6
16	---	---	---	---	---	---	9.1	7.9	8.6	9.2	8.0	8.6
17	---	---	---	---	---	---	9.1	7.9	8.5	9.2	8.0	8.6
18	---	---	---	9.3	8.0	8.7	9.0	7.9	8.3	9.2	8.0	8.6
19	---	---	---	9.2	8.0	8.7	9.0	7.8	8.3	9.2	8.0	8.5
20	---	---	---	9.2	8.0	8.7	8.9	7.8	8.2	8.3	8.0	8.1
21	---	---	---	9.2	8.0	8.6	9.1	7.8	8.4	8.9	8.0	8.5
22	---	---	---	9.2	8.0	8.5	9.1	7.9	8.4	9.0	8.0	8.5
23	---	---	---	9.3	8.0	8.7	9.2	7.9	8.5	9.0	8.0	8.5
24	---	---	---	9.2	8.0	8.6	9.1	7.9	8.5	9.0	8.1	8.4
25	---	---	---	9.2	8.0	8.6	9.0	7.8	8.3	9.1	8.0	8.5
26	---	---	---	9.2	8.0	8.6	9.2	8.0	8.6	9.1	8.1	8.5
27	---	---	---	9.3	8.0	8.7	9.1	8.0	8.6	9.1	8.1	8.5
28	8.8	7.8	8.2	9.3	8.0	8.6	9.2	8.0	8.6	9.2	8.1	8.5
29	8.5	7.8	8.0	9.2	8.0	8.6	9.2	8.0	8.6	9.2	8.1	8.5
30	8.0	7.8	7.8	9.3	8.0	8.7	9.2	8.0	8.7	9.2	8.0	8.4
31	---	---	---	9.3	8.0	8.7	9.2	8.1	8.6	---	---	---
Max	---	---	---	---	---	---	9.3	8.1	8.7	9.3	8.2	8.9
Min	---	---	---	---	---	---	8.9	7.8	8.2	8.3	8.0	8.1

12510500 YAKIMA RIVER AT KIONA, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
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7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
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12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
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16	---	---	---	---	---	---	---	---	---	---	---	---
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18	---	---	---	---	---	---	---	---	---	---	---	---
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31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	---	---	---	22.4	20.7	21.7	23.0	19.7	21.3	19.9	17.2	18.5
2	---	---	---	22.5	20.3	21.5	23.5	19.4	21.2	19.8	17.4	18.5
3	---	---	---	22.2	19.8	21.1	24.0	19.5	21.6	20.0	17.0	18.4
4	---	---	---	22.0	20.2	21.1	24.5	20.0	22.2	20.6	17.6	19.0
5	---	---	---	21.8	19.9	20.8	25.3	20.8	22.9	20.9	17.7	19.2
6	---	---	---	21.4	19.1	20.3	24.2	21.4	22.7	21.5	18.3	19.8
7	---	---	---	---	---	---	23.4	20.9	22.1	21.5	18.9	20.1
8	---	---	---	---	---	---	25.3	21.1	22.7	21.2	18.4	19.7
9	---	---	---	25.3	20.8	23.0	23.9	20.9	22.2	21.2	18.3	19.7
10	---	---	---	---	---	---	23.4	20.5	21.8	21.0	18.4	19.7
11	---	---	---	---	---	---	24.0	20.5	22.1	21.1	18.0	19.5
12	---	---	---	---	---	---	24.4	21.2	22.8	21.1	18.0	19.5
13	---	---	---	---	---	---	25.3	21.8	23.4	21.0	18.4	19.6
14	---	---	---	---	---	---	26.6	21.9	24.1	20.5	17.7	19.1
15	---	---	---	---	---	---	27.3	22.7	24.8	20.3	17.6	18.9
16	---	---	---	---	---	---	27.4	23.1	25.2	20.3	17.7	18.9
17	---	---	---	---	---	---	27.2	23.5	25.3	20.4	17.6	18.9
18	---	---	---	26.5	21.8	23.9	26.2	24.0	24.9	20.6	18.0	19.2
19	---	---	---	27.2	21.6	24.2	24.5	22.5	23.4	20.7	18.3	19.3
20	---	---	---	27.1	21.9	24.4	23.4	21.1	22.4	19.1	17.5	18.2
21	---	---	---	26.8	22.4	24.3	21.4	19.4	20.4	18.1	16.5	17.3
22	---	---	---	24.9	21.8	23.2	21.0	18.8	19.9	17.9	16.4	17.0
23	---	---	---	25.1	19.8	22.3	21.8	18.8	20.2	16.8	15.2	15.9
24	---	---	---	25.7	20.7	23.1	21.9	19.6	20.6	16.2	14.7	15.4
25	---	---	---	26.0	21.5	23.5	20.7	19.3	20.1	17.0	15.1	15.9
26	---	---	---	25.5	21.8	23.5	20.8	18.2	19.4	16.7	15.0	15.8
27	---	---	---	25.9	21.8	23.5	20.9	18.6	19.6	17.2	14.9	15.9
28	23.5	19.9	21.7	25.7	21.2	23.2	21.3	18.5	19.8	17.4	15.3	16.2
29	24.3	20.9	22.5	23.4	21.1	22.2	22.7	19.6	21.0	17.4	15.3	16.3
30	23.3	22.1	22.5	24.4	20.0	22.0	21.8	19.4	20.8	17.7	15.6	16.5
31	---	---	---	24.2	19.7	21.8	20.4	18.1	19.0	---	---	---
Month	---	---	---	---	---	---	27.4	18.1	21.9	21.5	14.7	18.2

12510500 YAKIMA RIVER AT KIONA, WA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		October			November			December			January	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
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13	---	---	---	---	---	---	---	---	---	---	---	---
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16	---	---	---	---	---	---	---	---	---	---	---	---
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19	---	---	---	---	---	---	---	---	---	---	---	---
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21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February			March			April			May	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

12510500 YAKIMA RIVER AT KIONA, WA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August			September	
1	---	---	---	8.6	7.7	8.1	13.7	6.4	9.6	14.3	7.2	10.2
2	---	---	---	8.3	6.7	7.5	14.9	6.5	10.2	14.3	7.2	10.2
3	---	---	---	7.6	6.9	7.3	14.8	6.3	10.0	14.3	7.3	10.3
4	---	---	---	7.8	7.2	7.4	14.5	6.4	9.9	14.4	7.2	10.2
5	---	---	---	8.2	7.4	7.8	14.7	6.2	9.9	14.6	7.0	10.1
6	---	---	---	8.5	7.7	8.1	13.7	5.9	9.4	14.2	6.9	10
7	---	---	---	9.1	7.8	8.4	13.9	5.8	9.2	13.9	6.6	9.8
8	---	---	---	10.1	7.6	9.2	14.7	6.0	9.3	13.9	6.8	9.8
9	---	---	---	10.7	7.4	8.8	13.9	6.2	9.7	13.9	6.7	9.8
10	---	---	---	9.2	7.7	8.4	13.9	6.5	9.6	13.8	6.6	9.8
11	---	---	---	9.8	7.7	8.7	13.9	6.5	9.7	13.8	6.7	9.8
12	---	---	---	---	---	---	13.8	6.3	9.5	13.8	6.6	9.7
13	---	---	---	---	---	---	14.2	6.2	9.5	13.7	6.6	9.7
14	---	---	---	---	---	---	14.5	5.8	9.5	13.6	6.8	9.7
15	---	---	---	---	---	---	14.3	5.5	9.2	13.7	7.0	9.8
16	---	---	---	---	---	---	14.0	5.4	9.1	13.8	7.0	9.8
17	---	---	---	---	---	---	13.6	5.4	8.9	14.0	7.0	9.8
18	---	---	---	15.3	6.1	10.1	13.0	5.4	8.2	13.9	6.8	9.7
19	---	---	---	15.4	6.0	10.2	12.9	5.6	8.5	13.9	6.8	9.5
20	---	---	---	15.2	6.0	10.0	11.9	5.9	8.2	9.1	6.6	7.6
21	---	---	---	15.1	6.0	9.9	12.6	6.6	9.1	12.8	7.2	9.5
22	---	---	---	14.7	5.9	9.4	12.5	7.0	9.4	13.2	7.4	9.8
23	---	---	---	14.9	6.4	10.1	13.2	7.0	9.6	13.1	7.8	10.0
24	---	---	---	14.6	6.1	9.8	12.9	6.8	9.3	12.9	8.1	10
25	---	---	---	14.3	6.3	9.8	11.9	6.6	8.7	13.2	8.0	10.1
26	---	---	---	14.4	6.1	9.5	13.5	7.2	9.8	13.3	8.0	10.1
27	---	---	---	14.5	6.1	9.7	13.2	7.0	9.6	13.6	8.1	10.3
28	11.2	7.6	9.1	14.6	6.1	9.8	13.4	7.1	9.8	13.4	8.0	10.1
29	9.9	7.5	8.4	13.6	6.2	9.6	13.5	6.8	9.6	13.4	8.0	10.1
30	8.5	7.4	7.9	14.9	6.4	10.1	13.8	6.5	9.6	13.6	7.8	10.0
31	---	---	---	15.0	6.3	10.0	14.2	6.8	9.7	---	---	---
Month	---	---	---	---	---	---	14.9	5.4	9.4	14.6	6.6	9.8